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EYEONE Konfigurator

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EYEONE Konfigurator

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Chapter

1

Introduction

1 Introduction

Welcome to EYEOONE Configurator

System requirements

The EYEOONE Configurator has a few system requirements before being installed on your computer. This section lists some of the basic requirements.

For a trouble-free operation your system must be equipped at least as follows:

- 500 MHz processor speed,
- 32 MB main memory,
- CDROM or DVD drive,
- Graphic card and monitor supporting a resolution of at least 800x600 pixels at 16-Bit color depth and
- a serial port to connect the sensor.

The EYEOONE Configurator is a windows-based application program and runs on these operating systems:

- Microsoft Windows 98 SE
- Microsoft Windows ME
- Microsoft Windows 2000, SP4
- Microsoft Windows XP Home Edition
- Microsoft Windows XP Professional Edition

The EYEOONE Configurator need not necessarily be installed on your computer in order to be used. It can also run directly from a CD, USB stick or similar devices.



Chapter

2

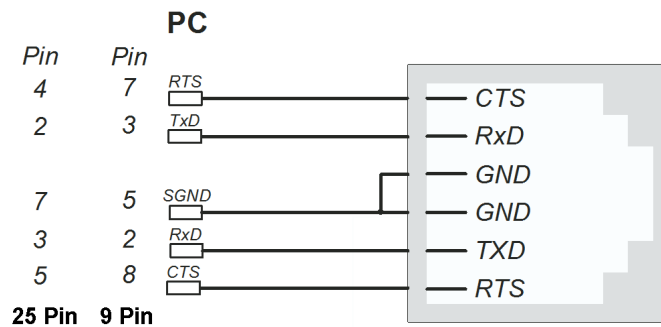
Installation

2 Installation

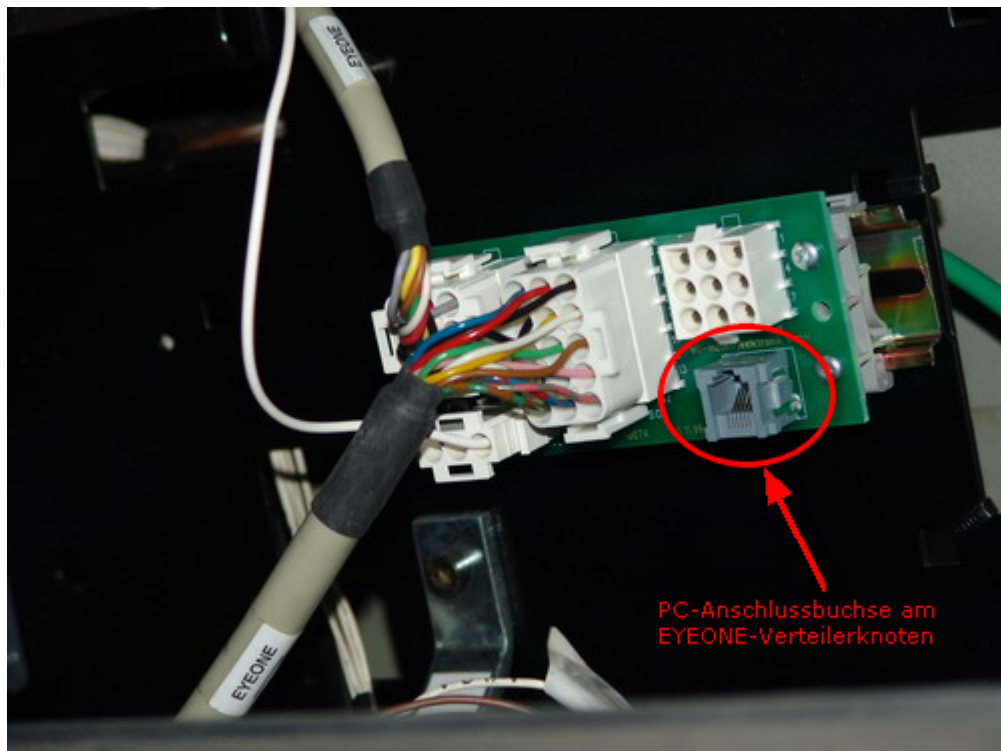
Connecting the Sensor

To do the settings for a sensor and/or calibrate it, first you must establish a connection between the sensor and the PC or Notebook on which the EYEOONE Configurator will run. The sensor communicates with a PC through a serial port.

The serial connecting cable must be equipped with an RJ11 jack on one end. The following diagram shows the pin assignment for this connector.



Connect the cable's jack (RJ11) to the matching socket on the EYEOONE distributor node. You will find the distributor node mostly inside the door box of the corresponding door.





Chapter

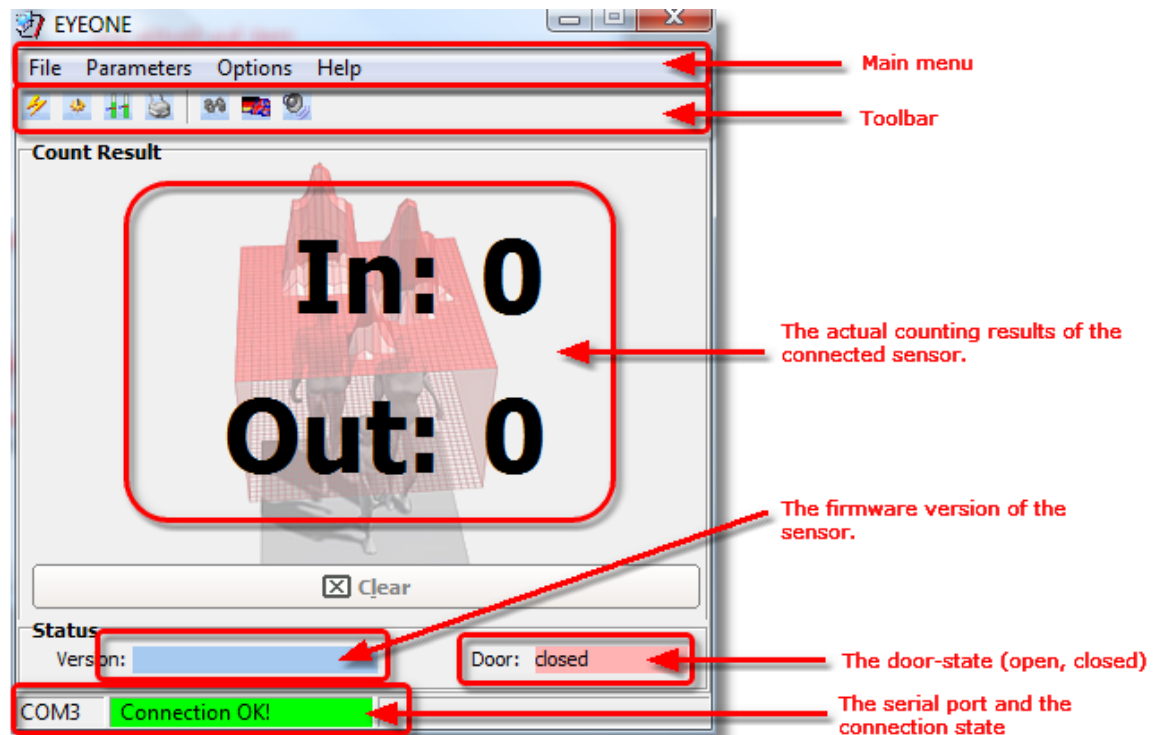
3

Working with the program

3 Working with the program















3.1 The counting window

The configurations routine's main window displays details like the status of the connection, the connected sensor's firmware version, the door status and the number of the count results stored on the sensor.



The top area of the window shows the main menu bar and below it the quick start bar. You can access all functions of the EYEOONE Konfigurator, including the help functions, either from the menu bar or from the quick start buttons.

The following functions are available to you:

Function	Quick start	What it means
Firmware Update		Using this function you can load a new  Firmware  on to the sensor.
Adjust parameters		You can adjust all  parameters  of the sensor such as its address etc.
Calibrate sensor		You will need this function to  calibrate  the sensor.
Print datasheet		You can take  a print out  of a connected sensor's parameters and file the output for your record.
Adjust interface		Here you can select the interface where the sensor is connected to your PC or Notebook.
Change language		The configuration application software offers you different

Switch signal on or off during counting



language options. If you wish, you can toggle between various languages.

The connected speakers enable you to also hear the instances of passengers entering and exiting the vehicle.

The counting range

The main screen displays the count values saved on the connected sensor. If a sensor is connected the current count results are displayed in realtime.

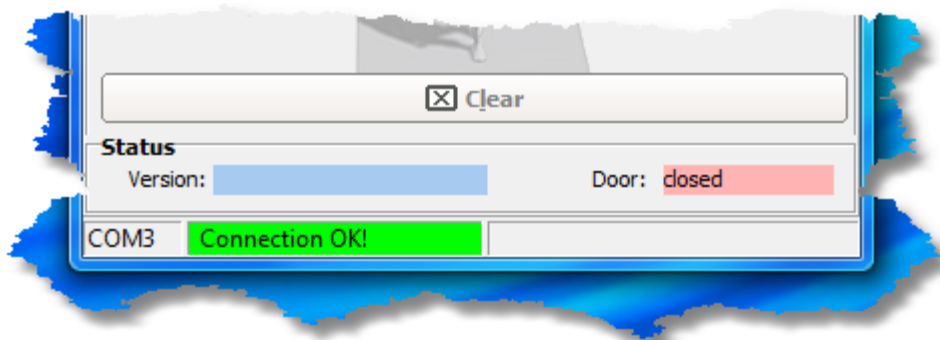
You can delete the values stored on the sensor using the button "Delete".



The stored count results in the sensor will be deleted not only in the configuration program; they will no longer be available to the onboard unit, if one is connected.

If the sensor is connected to an onboard unit and it picks up the count results automatically from the sensor (for example, when leaving a stop), it may happen that the count results are seen in the configurator window only for a short duration. As the onboard unit picks up the results, it will reset the stored values in the sensor.

The status bar



The status bar indicates two details:

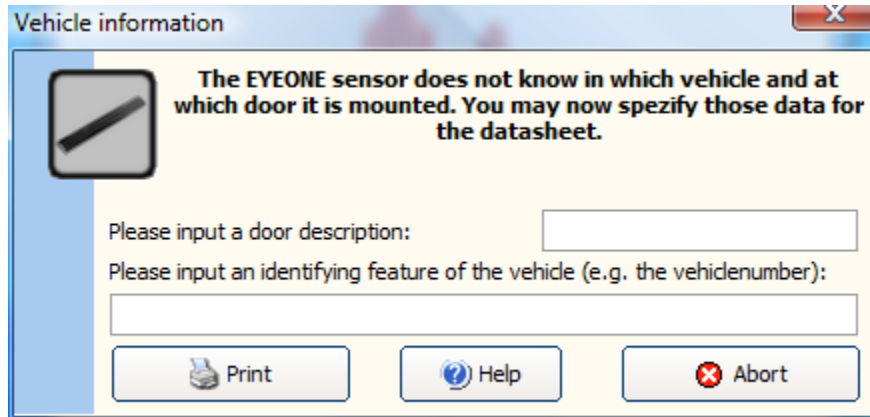
- the sensor's current firmware version
- the state of the door that is the take-off point for the sensor.

The message in the field "Door" indicates from which state of the door the connected sensor is currently taking-off. The counting sensor operates with limitations only as long as the door is opened (see also the section ["Evaluation delay"](#) ^[13] under sensor parameters) ^[10]. The sensor receives the message about the state of the door from a door contact. The sensor must learn as to which position of the door contact represents "Door opened" and which "Door closed". You can adjust this in the section ["Door contact"](#) ^[12] dealing with sensor parameters.

3.2 EYEONE datasheet

To print a datasheet, select from the menu "Parameter" the option "Print datasheet ..." or click the corresponding button on the quick start bar.

Before printing the datasheet the system displays the following input dialog:






Vehicle information

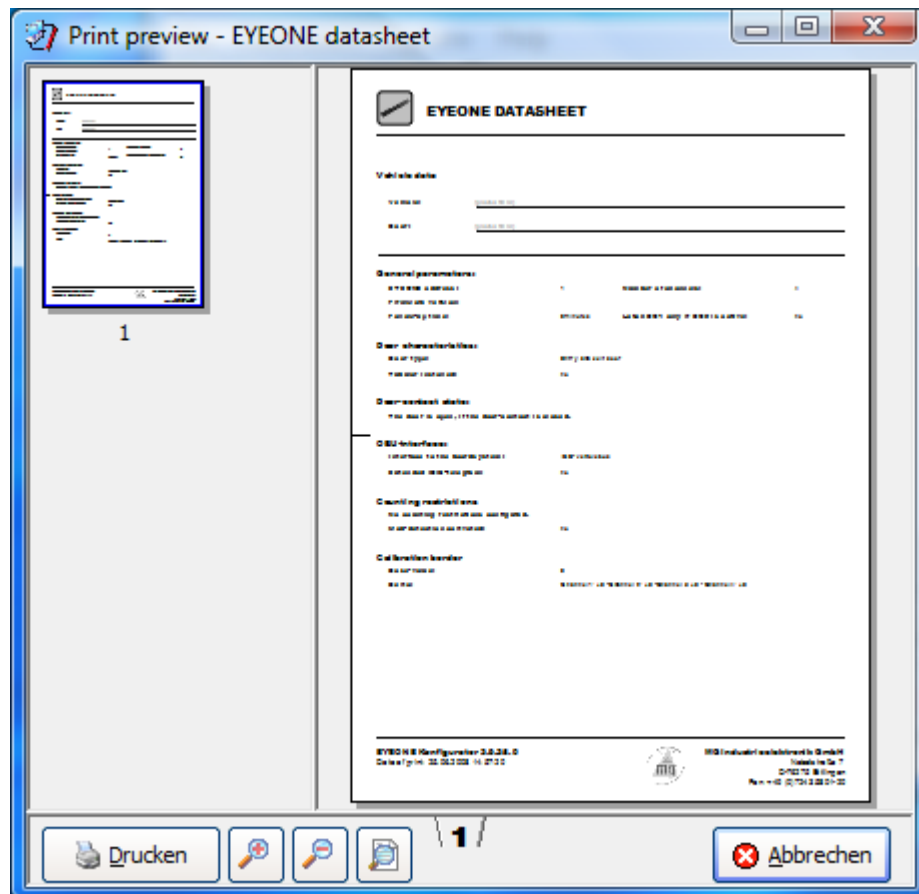
The EYEOONE sensor does not know in which vehicle and at which door it is mounted. You may now specify those data for the datasheet.

Please input a door description:

Please input an identifying feature of the vehicle (e.g. the vehidenummer):

 Print  Help  Abort

Here you can enter the description of the vehicle (for example, the vehicle number or the registration number) and that of the relevant door. The entered values will be automatically saved to the datasheet. However, you can skip this dialog.



Print preview - EYEOONE datasheet

EYEOONE DATASHEET

Vehicle data

VEH ID NO:

DOOR NO:

General parameters:

VEHICLE ID: DOOR ID:

VEHICLE NO: DOOR NO:

VEHICLE TYPE: DOOR TYPE:

Door characteristics:

DOOR TYPE: DOOR NO:

Measurement data:

MEASUREMENT NO: MEASUREMENT DATE:

OSI-Interface:

INTERFACE: ADDRESS:

Counting restrictions:





COUNTING RESTRICTIONS:

Calibration number:

CALIBRATION NO:

EYEOONE Konfigurator 3.0.0.0
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 Drucken   1  Abbrechen

3.3 The parameter window

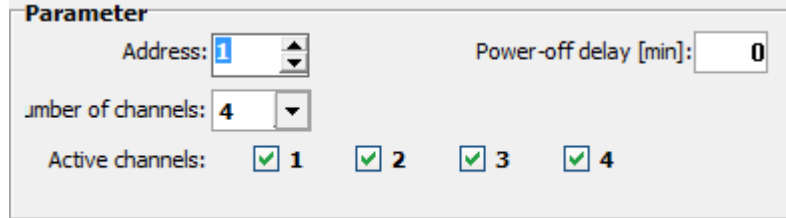
In this window you can set all relevant parameters for the EYEOONE Counter sensor. These are classified into five sections:

 **Parameters** 

 **Door characteristics** 

-  **Door contact** ¹²
-  **Onboard unit interface** ¹²
-  **Evaluation-delay** ¹³

General parameters



You can set the sensor's **Address** in the general parameters. For each vehicle, you can operate simultaneously 15 sensors maximum.



Each sensor of a vehicle must have a unique Address.

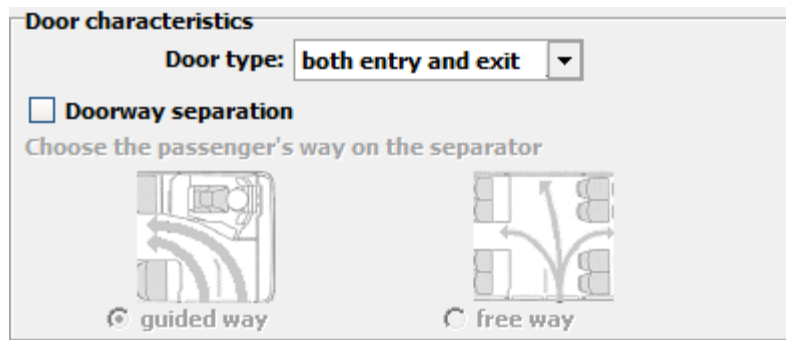
The EYEONE counting sensor is supplied ex factory in two different variants. The standard version has four channels and an assembly width of 90 cm. There is another version for narrow doors with an assembly width of 60 cm and two channels.

Depending on the type of sensor that is currently connected you must set the matching **channel number** (two or four).

You can also deactivate any individual channel of a sensor. By default all channels should always be active. A channel may only be deactivated, for example, if it is blocked permanently due to its assembled position (for example, because of a mirror projecting into the sensor path).

Specifying a value in the field **Follow-up delay** indicates how long the sensor should remain in operating mode after the IBIS master device cuts off.

Door characteristics



In bus traffic system often the practice is to only enter the vehicle from the driver's side and only exit through the rear doors.

The EYEONE sensor takes this aspect into account.

You can specify for each sensor if "its" door is a primary entry, primary exit or a universal door.

For example, if you decide for an entry door, the sensor watches out more on passengers entering the vehicle.

A similar setting option is available for controlling the counting sensor's recognition algorithm by enabling the checkbox **Doorway separation**.

Using this option you can divide the sensor's recognition area into two separate units. The sensor will treat the left and the right area as a single independent recognition area and assume that there is no

overlapping between both the areas. In other words, it assumes that no passenger can wander from the left into the right area and the other way round.

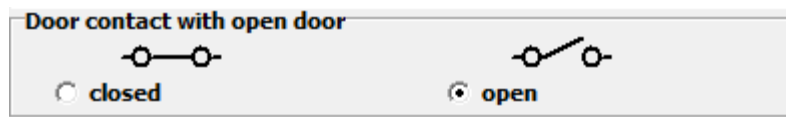
If the doorway separation option is active, you should also specify how the entry situation is at the corresponding door.

Typically there are two kinds:



1. **The way** for the passengers is mainly **determined** by the vehicle's design at this door.
2. **The way** for the passengers into the vehicle's interior is basically **optional** after the separator.


Normally, the first kind is found at the vehicle's driver-end door. The second kind is found, for example, in normal doors of busses or rail cars that are equipped with a separator but not compel the passenger to move further in a particular direction into the vehicle.

Door contact

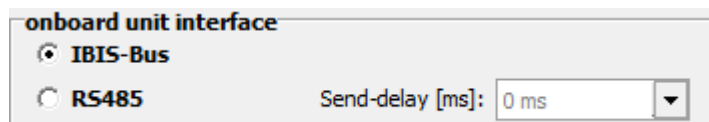


This option allows you to set which state of the door contact switch an open door represents. This value must be set correctly because the sensor is only active when the door is opened.



You can verify the correct function of the door contact in the  status bar of the counting window . Here the field "Door" must display "open" when the door is really in opened condition and "closed" when it is closed.

 The door contact must be connected in such a way that it reports "Door open" **as soon as** the door **begins** to open and "Door closed" only when the door is **fully** closed.


Onboard unit interface



You can connect the EYEONE counting sensor in two ways to your onboard system:

-  over the IBIS-Bus
-  over an RS485 interface

If you are using an RS485 interface, then you can specify a time-gap in milliseconds in the drop-down field "Send delay" during which the sensor waits between instances of sending and receiving telegrams. Here the default value is 20 ms.

 The EYEONE sensors **cannot** be interchanged later between IBIS-Bus and RS485. The EYEONE sensors are supplied ex factory either with IBIS-Bus or RS485 interface. This option is only intended for conveying information to the application software about the interface being used by the hard ware.

Special options

Special options
☐ Use door contact 1 only if door contact 2 is active
☐ Transfer extended b-record ☐ Mob-detection activated

✎ The option "Apply only Door contact 1, if Door contact 2 is active." is meant to prevent a loss of the door signal as it normally drops when the ignition is cut off. If you need this option, please contact us for more information.



To enable this option special cabling is necessary for your vehicle.

✎ If the option "Use extended b-telegram" is active in addition to the number of passengers entering and exiting in the standard IBIS-telegram 183 another value is used for the signal activity of the corresponding sensor.



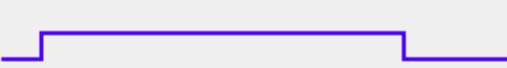
If this option is checked the sensor's response to a query by the master device is **no longer** VDV-300 compatible.

✎ The option "Throng recognition" is intended for better recognition of people in thronging or jamming situations. If many people enter or exit a vehicle in crowds, that is to say, without any distance from each other, for the sensor it is difficult or impossible to distinguish individual persons in a throng. In such a situation typically less people are counted than those who actually enter or exit the vehicle. The option "Throng recognition" will influence the sensor's counting strategy. In thronging situations individuals are separated much better and the total result of the counting is also better. It is only useful if you have primarily people thronging in one direction at the door for which the throng recognition is activated. But if there is simultaneously dense entering and exiting traffic you should deactivate this option.


Evaluation delay

Evaluation-delay for each channel


Doorsignal
open
closed



Possible evaluation time (schematic)
A → ← B →



Actual settings



Interval A: "door open"
1: 2: 3: 4:

Interval B: "door closed"

+

▼

1: 2: 3: 4:

Hint: All values are milliseconds

Normally, the EYEONE counting sensor begins to count as soon as the door contact reports "open" until the door contact reports again "closed".

There are situations for the door where it may be meaningful to extend or shorten the time during which the sensor is counting.

Es gibt drei Fälle, die konfiguriert werden können:

- ✂ Evaluation delay in "Door opened"
- ✂ Discarding the counting results before "Door closed"
- ✂ Evaluation delay beyond "Door closed"

1. Case: Evaluation delay in "Door open"

In some door designs the door sweeps through one or many sensor rays during the opening action. In rare cases this may result in mere door movement being assessed as passenger activity of entering or exiting.

In order to intercept such situations, the EYEONE sensor offers the option to configure delaying the evaluation while opening the door. All counting events within this period after "Door opened" will be ignored.

2. Case: Discarding counting results before "Door closed"

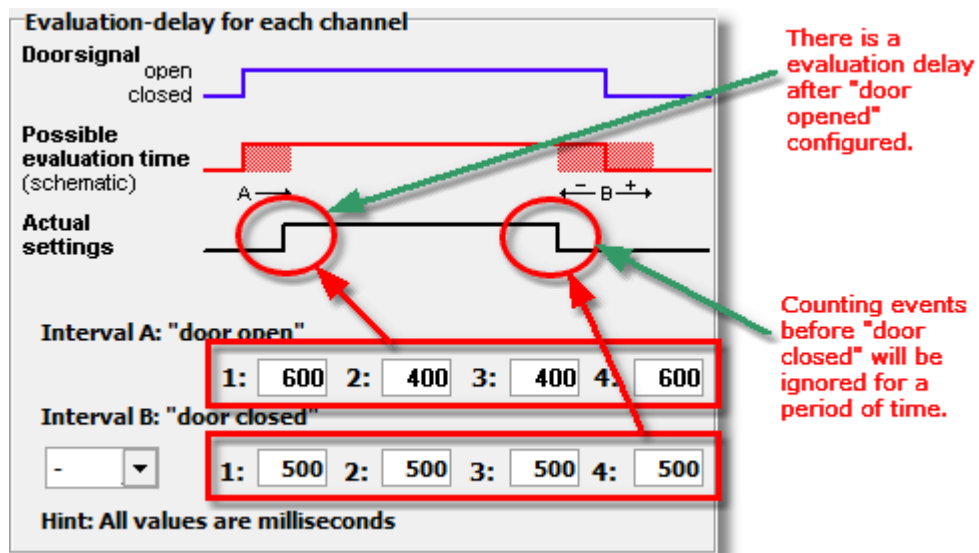
This represents the opposite of the first case. Even while closing the door it may happen that the doors slide through the sensor area and trigger counting operations.

3. Case: Extension of evaluation delay beyond "Door closed"





This option is intended for intercepting certain characteristics of certain door contacts. There are some door contacts which erroneously report "Door closed" as soon as the door just begins to close and not when the door is closed fully.

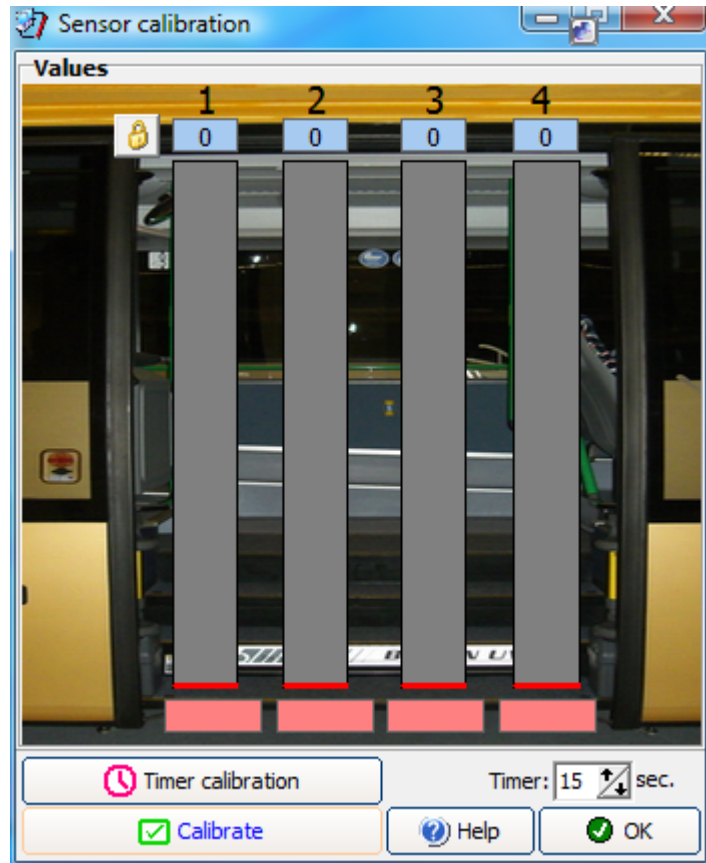
The counting sensor finishes its recording once it receives the "Door closed" message from the door contact. However, in such a situation there can be a considerable time-gap between the signal "Door closed" and the really closed condition of doors as long as still some people have time to enter or exit the vehicle. All these people would be lost to the counting statistics, if this property of the special door contact is not taken into account.

Therefore, you have the option to specify a period beyond which the sensor should continue to record even when the door contact has already reported "Door closed".



3.4 The calibration window


As the name itself suggests, the calibration window is intended primarily for calibrating the sensor. In addition, it visualizes the current sensor activity and some of the adjusted options in the  parameter window  (for example, the  separator option .



If it is a 2-channel sensor, only two channels will be displayed.



The threshold

If a sensor is connected, the door is opened and the  state of the door contact ¹²⁾ has been set correctly in the parameters, the calibration window will then show for each channel data about the current calibration threshold and the present activity on the corresponding channel.

The **threshold** has two functions:





1. Due to consideration of manufacturing tolerances not all channels of a sensor are aligned 100% parallel. Wide deviations in a hundredth of millimeter area may mean scanning deviations in a centimeter area on the ground height if converted into the assembly height of the sensor. So as to balance these fluctuations each sensor must possess information about what a plane surface is that is parallel to the ground. This operation involves "calibration" of the sensor.
2. Moreover, the calibration threshold allows you to determine the area under which counting events are intended to be ignored. In this way, you can specify, for example, that animals or people below a particular body size are disregarded straightaway. Typically, this option is used, for example, to exclude children below a particular age automatically from counting.

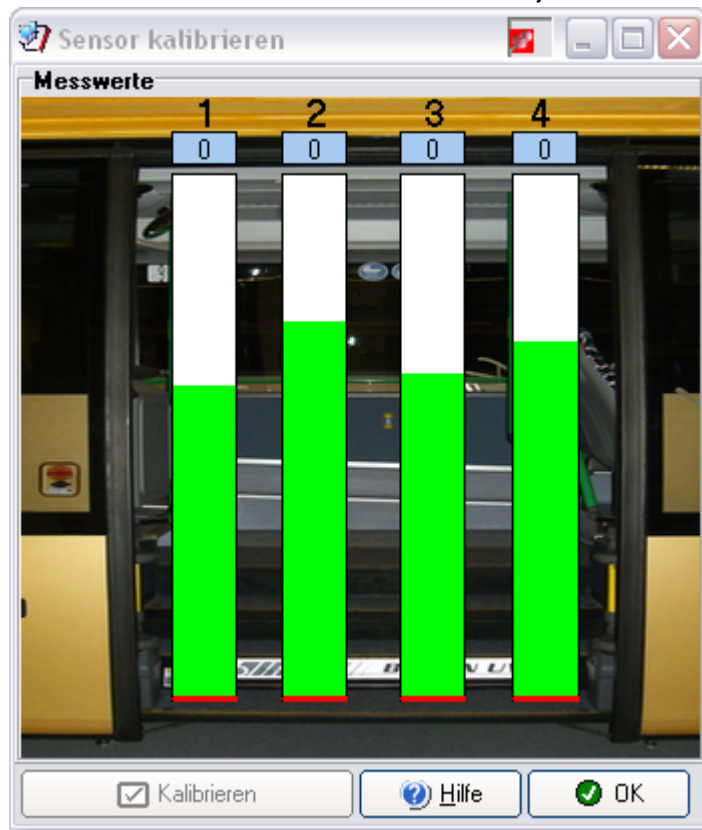
Sensor calibration

To calibrate the sensor, i.e. to fix its threshold, do the following:

1. For this, you need a **bright-colored plank** or a **cardboard** that is slightly narrower than the width of the door on which the sensor is mounted. The plank or the cardboard should have a depth of approximately 30 cm.
2. The vehicle should be standing on a flat surface and not in an inclined position (if the vehicle supports kneeling function).
3. Open the vehicle's door and connect the computer unit to the sensor or – normally this is simpler –

to the sensor's distributor node and launch the EYEONE Configurator.

4. Make sure that the configuration program has established a connection to the sensor. Open the  calibration window  from the menu "Calibrate parameters ...".
5. Now you should view the sensor activity shown as green colored bars in the calibration window, if you move within the sensor area. If this is not the case, all bars will appear in grey; check if the correct state of the door contact has been adjusted under the  parameters .

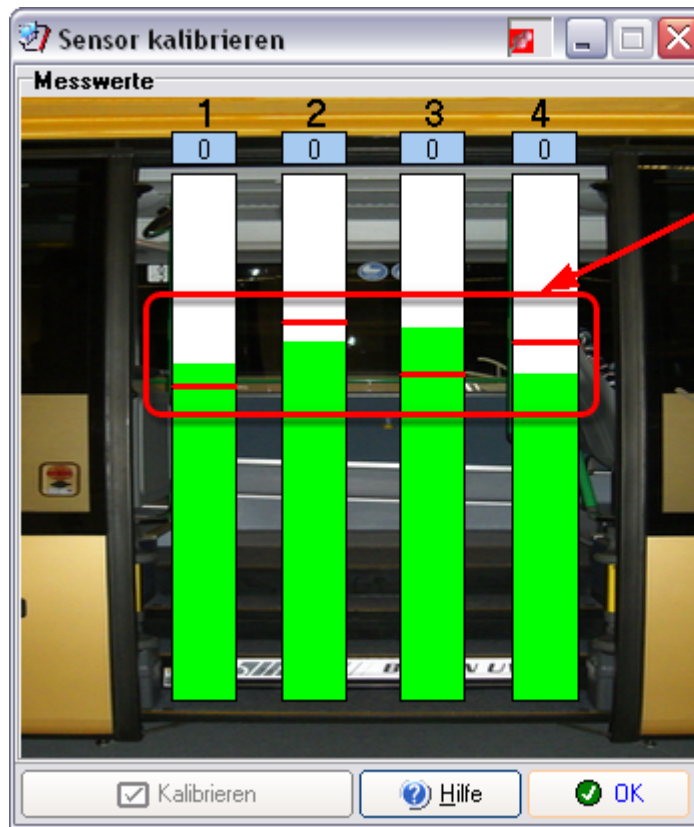


6. Now stand outside the vehicle just in front of the door edge and hold the calibration board parallel to the ground in the sensor area in such a way that all the channels of the sensor are crossed. You can observe this at the deflection of all channels in the calibration window..



7. Hold the cardboard or the plank as much as possible at the height that should define later the calibration and, therefore, the threshold of identification.
8. Once you have correctly placed the calibration board at the desired height and parallel to the ground within the range of all sensor channels, click the button "Calibrate" in the calibration window.

Alternatively, you can also calibrate with a timer. Just as in a camera, all you need to do is to set the desired delay time for the timer and click the option "Timer calibration". The EYEONE Konfigurator will count the specified seconds in decreasing numbers and start the calibration sequence on expiry of the time.



The red indicators show the actual threshold of each channel.

This procedure needs to be followed only once at the time of mounting the sensor. The EYEONE sensor does not need any maintenance. Periodic re-calibration or such procedure is not necessary.



Tip: You should briefly test the relevant sensor after every calibration by entering and exiting the vehicle a few times. If you notice that the sensor is counting incorrectly too often and, for example, fails to identify you a few times, possibly the calibration threshold has been set either too high or too low. In such case, please re-calibrate the sensor until you achieve the optimum results.

Change threshold manually

In rare situations it may be necessary to manually readjust the calibration threshold of one or many channels. For example, if a calibration value clearly deviates from other values due to heavy reflections on the vehicle (for example, due to reflection from a mirror or the door).



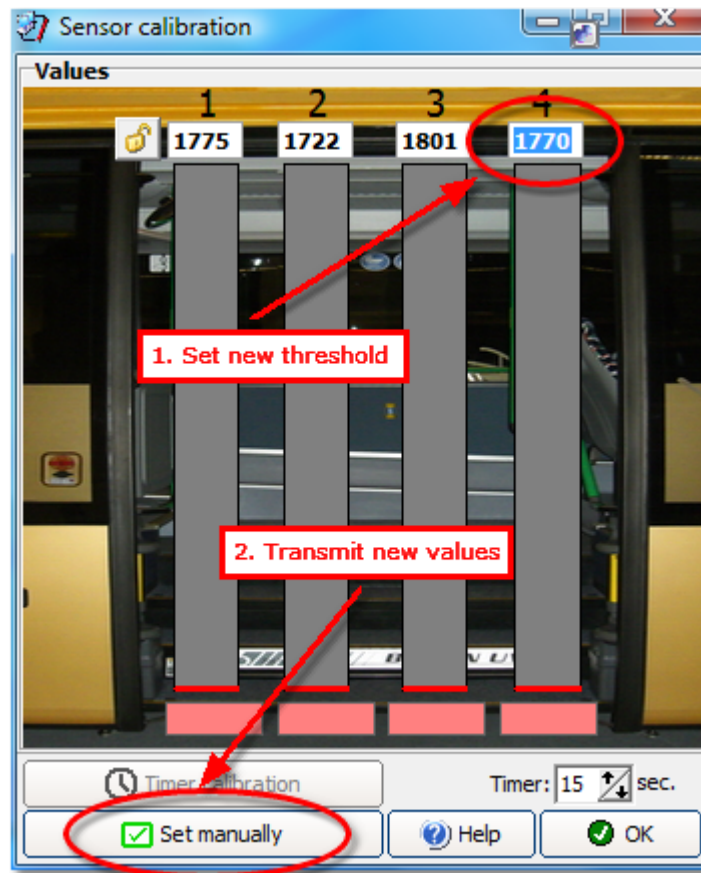
This function should only be used, if it is absolutely necessary. Incorrect or incoherently set measurements will give rise to totally meaningless count results. Before you decide to use this function you are advised to [consult with us](#) first.


As a protection against incorrect inputs, by default, the function to manually change the calibration values is disabled. However, you can enable this function by clicking the button "Enable".



After enabling the calibration values of individual channels can be edited. Change the value of the affected channel as desired and click "Set calibration value manually" to apply the new calibration

values.






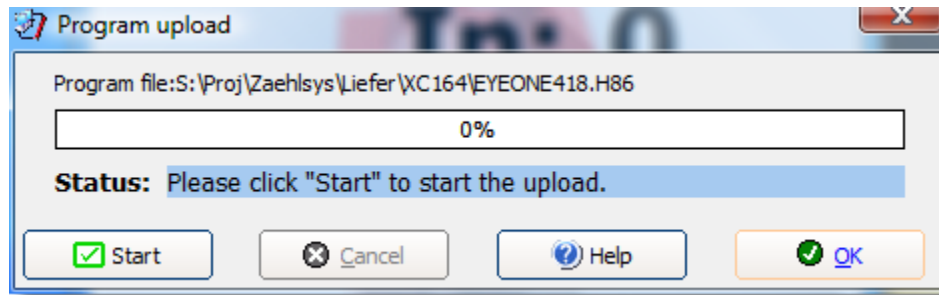
 The calibration values are incremental from top to bottom and not the other way round. The top-most calibration limit is 800 and the bottom-most is 3600. For example. If you wish to set the calibration threshold slightly upwards, you must decrease the calibration value.



3.5 Run firmware update

To run a firmware update you need a valid firmware file. Firmware files normally have a file extension like this ".h86".

In the main menu, select the options "File" - "Run firmware update".

 During a firmware update it is likely that the current parameters and also the calibration thresholds get deleted. If necessary, first note down the current settings so that you will be able to reset them after a firmware update operation. Alternatively, you can take  a print-out of the sensor's datasheet . In this way, you have all the settings' information at a glance.



The program will load the firmware on to the sensor after you click "Run update". If the Update has been successful, you will notice that the  status indicator  has changed from "green" to "red". As soon as the sensor has saved the new firmware information it will re-establish the connection to your PC automatically.



If the connection does not take place automatically, quit the EYEONE Configurator, briefly disconnect the cable from your PC or Notebook and start the configuration program all over again.

After every firmware update, please check the sensor's parameters and calibration without fail. Don't forget to re-calibrate the sensor, if necessary.

3.6 Password protection

By assigning a password you can safeguard the EYEONE Configurator from unauthorized use. By default no password is setup.

You can enter your own password for the application by opening the menu "Options - Change password ...".



You can use any type of alpha-numeric characters, including spaces. However, spaces should not be placed at the beginning and end of the relevant password. You may attempt to enter leading or closing spaces but they will be deleted automatically. For example, if you enter something like " MyPassword ", it will only be saved as "MyPassword". Commit your password to memory well because without this password you cannot start the EYEONE Configurator at all and there is no way to change or delete the password.



Chapter

4

Contact

4 Contact



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EYEONE Configurator:



Key words

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C

Calibrate 15

Calibration
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